

AMENDMENTS TO THE CLAIMS

1. **(CURRENTLY AMENDED)** A fabric having a woven construction, including in its woven construction a plurality of spaced first elongated electrically conductive filaments or fibres and a plurality of spaced second elongated electrically conductive filaments or fibres, said first elongated electrically conductive filaments or fibres being crossed by said second elongated electrically conductive filaments or fibres at a plurality of crossover points,

wherein the fabric includes a warp and a weft, the warp including at least one of said first electrically conductive filaments or fibres and the weft including at least one of said second electrically conductive filaments or fibres;

wherein said fabric includes insulating fibres or filaments which bias said first and second electrically conductive filaments or fibres apart at a crossover point, wherein the woven construction includes yarn and the first and/or second electrically conductive filaments or fibres include warp and/or weft floats over or under more than one yarn to effect the biasing apart of first and second electrically conductive filaments or fibres at a crossover point;

wherein the fabric ~~includes~~ consists of at least one instance of a crossover point at which the first and second electrically conductive filaments or fibres are permanently biased apart and at least one instance of a crossover point at which said corresponding first and second electrical conductors are permanently physically connected together, with the fabric lacking electrically conductive filaments or fibres which are spaced apart and also biasable ~~under pressure~~ into conductive contact with each other,

wherein said one or more crossover points at which said corresponding first and second electrically conductive filaments or fibres are permanently physically connected together are effected by means of a plain weave structure local to that crossover point, wherein said permanently connected crossover points and said permanently biased apart crossover points bring into being at least one conductive path within said fabric that is

composed of two or more contiguous segments of two or more electrically conductive filaments or fibres;

wherein the contiguous segments of electrically conductive filaments or fibres have a length and/or number and/or arrangement and/or linear resistivity chosen so as to constitute one or more resultant conductive paths that conform to a desired geometry such that a desired resistance can be generated within a selected area and shape of the woven fabric from electrically conductive filaments or fibres having a limited range of available yarn conductivities.

2-7. **(CANCELED)**

8. **(PREVIOUSLY PRESENTED)** A fabric as claimed in claim 1, including insulating warp fibres neighbouring an electrically conductive filament or fibre in the warp, wherein the neighbouring insulating warp fibres to an electrically conductive filament or fibre in the warp include a warp float over or under more than one weft yarn.

9. **(PREVIOUSLY PRESENTED)** A fabric as claimed in claim 1, including insulating weft fibres neighbouring an electrically conductive filament or fibre in the weft, wherein the neighbouring insulating weft fibres to an electrically conductive filament or fibre in the weft include a weft float over or under more than one warp yarn.

10-14. **(CANCELED)**

15. **(PREVIOUSLY PRESENTED)** A fabric as claimed in claim 1, wherein the two or more contiguous segments are of two or more electrically conductive filaments or fibres that exhibit differing linear resistivities.

16-19. **(CANCELED)**

20. **(CURRENTLY AMENDED)** A fabric as claimed in ~~claim 18~~ claim 1, wherein the fabric provides an electrical heating element that exhibits a heterogeneous distribution of heated power dissipation along the resultant conductive path and/or across the fabric.
- 21-26. **(CANCELED)**
27. **(WITHDRAWN)** A fabric as claimed in claim 1, wherein the conductive path is arranged in series in a serpentine manner.
28. **(PREVIOUSLY PRESENTED)** A fabric as claimed in claim 1, wherein the conductive path is arranged in series along a spiral path.
29. **(CURRENTLY AMENDED)** A fabric as claimed in claim 1, including a parallel structure comprised of a multitude of parallel sub-paths, and wherein the conductive path is defined by comb shapes conductively isolated from each other, with the fingers of the combs being interlaced.

30. (CURRENTLY AMENDED) A fabric having a woven construction with a warp and a weft, the fabric including:

- I. several spaced elongated first electrically conductive elements included in the warp of the fabric;
- II. several spaced elongated second electrically conductive elements included in the weft of the fabric, and crossing the first electrically conductive elements at several crossover points; and
- III. elongated insulating elements in the warp and/or the weft of the fabric,

wherein the fabric **includes** consists of:

- A. one or more crossover points at which the first and second electrically conductive elements are permanently biased apart, the permanent biasing being effected by warp and/or weft floats of the first and/or second electrically conductive elements over or under more than one of the elongated insulating elements, and
- B. one or more crossover points at which the first and second electrically conductive elements are permanently in conductive communication, the permanent conductive communication being effected by a plain weave in the warp and weft at the crossover point,

with the fabric lacking any crossover points at which conductive elements are spaced apart while being biasable ~~under pressure~~ into conductive relationship,

wherein the permanently biased apart crossover points and the crossover points in permanent conductive communication generate at least one conductive path within the fabric that includes two or more contiguous segments of two or more of the electrically conductive elements, the contiguous segments together having one or more of:

- (1) a length,
- (2) a number,
- (3) an arrangement, and/or
- (4) a linear resistivity,

with the conductive paths providing a desired geometry such that a desired resistance can be generated within a selected area and shape of the woven fabric from electrically conductive filaments or fibres having a limited range of available yarn conductivities.

31. **(PREVIOUSLY PRESENTED)** The fabric of claim 30 wherein the warp includes:
- a. elongated insulating elements, and
 - b. an elongated electrically conductive element neighboring the elongated insulating elements,
- wherein the insulating elements include a warp float over or under more than one of the elements in the weft.
32. **(PREVIOUSLY PRESENTED)** The fabric of claim 30 wherein the weft includes:
- a. elongated insulating elements, and
 - b. an elongated electrically conductive element neighboring the elongated insulating elements,
- wherein the insulating elements include a weft float over or under more than one of the elements in the warp.
33. **(PREVIOUSLY PRESENTED)** The fabric of claim 30 wherein the two or more contiguous segments of two or more of the electrically conductive elements include electrically conductive elements having different linear resistivities.

34. **(PREVIOUSLY PRESENTED)** The fabric of claim 30 wherein the desired electrical characteristics include one or more of:
- a. resistance,
 - b. capacitance,
 - c. inductance,
 - d. impedance, and
 - e. reactance.
35. **(PREVIOUSLY PRESENTED)** The fabric of claim 30 wherein the desired electrical characteristics include a heterogeneous distribution of resistance along one or more of:
- a. the conductive path, and
 - b. the entire fabric.
36. **(WITHDRAWN)** The fabric of claim 30 wherein the conductive path is arranged across two or more of the electrically conductive elements in series in a serpentine manner.
37. **(PREVIOUSLY PRESENTED)** The fabric of claim 30 wherein the conductive path is arranged across two or more of the electrically conductive elements in series along a spiral path.
38. **(CURRENTLY AMENDED)** The fabric of claim 30 including wherein the conductive path includes interdigitated subpaths **nonconductively isolated from each other**.
- 39-40. **(CANCELED)**

41. **(PREVIOUSLY PRESENTED)** The fabric of claim 1 wherein the conductive path within the fabric includes:
- a. multiple electrically conductive filaments or fibres connected in parallel, and
 - b. terminal lengths of electrically conductive filaments or fibres extending therefrom, with the number of parallel filaments or fibres being at least an order of magnitude greater than the number of electrically conductive filaments or fibres defining terminal lengths of the conductive path.
42. **(PREVIOUSLY PRESENTED)** The fabric of claim 30 wherein the conductive path within the fabric includes:
- a. multiple electrically conductive filaments or fibres connected in parallel, and
 - b. terminal lengths of electrically conductive filaments or fibres extending therefrom, with the number of parallel elements being at least an order of magnitude greater than the number of electrically conductive elements defining terminal lengths of the conductive path.